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TITLE: REFORMING AND HEATING METHOD FOR REDUCING GAS GENERATED IN MELT REDUCTION FURNACE

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ABSTRACT:

PURPOSE: To heat up a reducing gas and to reform the gas to the gas having an excellent reducing property by preliminarily passing the

reducing gas generated from a melt reduction furnace for preliminarily reduced iron ore through a coal firing fluidized bed furnace at the time of feeding said gas to a preliminary reduction furnace.

CONSTITUTION: After part of powder iron ore (a) is subjected to solid phase reduction in the preliminary reduction furnace 2, the iron ore is melted in the melt reduction furnace and is thoroughly reduced to produce a molten iron. The exhaust gas (d) from the melt reduction furnace is put into the coal firing fluidized bed furnace 12 and is blown into the fluidized bed of the slack (b) which is blown with oxygen C to form the fluidized bed in the furnace. The slack 2 is partially burned by the oxygen C blown into the fluidized bed 12 and is heated up to a high temp. of 900~1,000°C and therefore, the reducing exhaust gas (d) from the melt reduction furnace is heated to the high temp.; at the same time, the CO2 component in the exhaust gas is reduced to CO by the red hot char formed by the partial combustion of the coal in the fluidized bed. The reducing gas which has the high temp. and is intensified in the reducing performance is thus admitted into the preliminary reduction furnace 2, by which the powdery iron ore is efficiently and preliminary reduced.